CLAIMS:

1.   A method comprising:

        receiving a network communication including an asset having a pixel data and non-

pixel data;

        storing the asset and validating the non-pixel data in parallel; and

        forwarding the storage asset upon validating the non-pixel data

2.   The method of claim 1, wherein receiving a network communication comprises:

        storing the asset in a ringtail buffer while receiving the network communication; and

        instantiating a validation software module and a storage manager software module,

wherein the validation software module and the storage manager receive the asset from the

ringtail buffer in parallel.

3.   The method of claim 1 further comprising:

        receiving the network communication with multiple software modules; and

        storing the asset and validating the non-pixel data with different software modules.

4.   The method of claim 1, wherein the non-pixel data comprises medical data and the

pixel data comprises medical images.

5.   The method of claim 4, wherein the medical asset data comprises patient information,

session information and study information

6   The method of claim 4, wherein validating the non-pixel data comprises syntactically

and semantically validating a number of DICOM tags within the non-pixel data.

7.   The method of claim 1, wherein validating the non-pixel data includes issuing a

reconciliation event when the non-pixel data is invalid.

8.   The method of claim 1, wherein storing the pixel data comprises buffering the storage asset to a local storage medium.

9.   The method of claim 1, wherein forwarding the network communication upon validating the asset comprises initiating and outbound network communication prior to receiving all of the pixel data.

10.   The method of claim 1, wherein receiving the network communication comprises receiving a number of packets from a network, and where storing the pixel data and validating the non-pixel data commences after receiving a first portion of the packets.

11.   The method of claim 1, wherein forwarding the network communication comprises forwarding the network communication to a plurality of storage systems in parallel.

12.   A method comprising:

receiving a number of packets with multiple software modules listening to a single communication socket of a TCP/IP-based network, wherein the packets contain a storage asset having a pixel data and non-pixel data;

selectively process the non-pixel data and the pixel data with separate software modules to store the asset and validate the non-pixel data in parallel as the packets are received; and

forwarding the storage asset to a network destination upon validating the non-pixel data and prior to receiving all of the pixel data.

13.   The method of claim 12, wherein the non-pixel data comprises medical data and the pixel data comprises medical images

14.   The method of claim 13, wherein the medical asset data comprises patient information, session information and study information

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15. The method of claim 14, wherein validating the non-pixel data comprises semantically and syntactically validating a number of DICOM tags within the non-pixel data.

16. A router comprising:

a computer-readable medium storing routing information mapping destinations to routes within a network; and

a storage manager software module that receives a network communication including an asset having a pixel data and non-pixel data, and stores the asset to a storage device;

a validation software module that validates the non-pixel data in parallel with the storage of the asset; and

a routing module that forwards the storage asset to a network destination in accordance with the routing information upon the validation of the non-pixel data.

17. The router of claim 16 further including a computer-readable medium buffering the network communication in a ringtail buffer, wherin the storage manager software module and the validation software module read the network communication from the ringtail buffer.

18. The router of claim 16, wherein the non-pixel data comprises medical data and the pixel data comprises medical images.

19. The router of claim 18, wherein the medical asset data comprises patient information, session information and study information

20 The router of claim 18, wherein the validation software module syntactically and semantically validates a number of DICOM tags within the non-pixel data.

21. The router of claim 16, wherein the validation software module issues a reconciliation event when the non-pixel data is invalid.

22. The router of claim 16, wherein the routing module forwards the network communication to a plurality of storage systems in parallel.

23. A method comprising:

storing routing information mapping destinations to routes within a network;

receiving a network communication comprising destination information and a storage

5   asset;

storing a plurality of outbound network communications in a plurality of queues,

wherein the outbound network communications include references to the storage asset;

selecting a plurality of routes from the routing information; and

forwarding the network communications according to the selected routes in parallel.

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24. The method of claim 23, wherein selecting a plurality of routes comprises selecting

routes to a plurality of archive systems.

25. The method of claim 23, further comprising:

15   storing a set of routing rules;

comparing at least a portion of the data to the set of routing rules; and

selecting a plurality of routes from the routing information based on the destination

information and a result of the comparison.

20   26. The method of claim 23, wherein the network comprises a medical imaging network

and the network communication complies with the DICOM protocol, and further wherein

storing routing information comprises storing routing information mapping Application

Entity Names (AENames) to routes within the medical imaging network.

25   27. The method of claim 26, wherein selecting a plurality of routes from the routing

information comprises comparing an AEName defined within the network communication to

the AEName defined within the routing information.

28. The method of claim 23, wherein the network communication complies with the

30   DICOM protocol, and further wherein comparing at least a portion of the medical asset data

comprises:

parsing the medical asset data to identify a set of DICOM tags and corresponding data; and

assessing a routing rule from the set of routing rules based on the DICOM tags and corresponding data.

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29.   The method of claim 23, wherein storing a set of routing rules comprises storing an XML-based set of rules, wherein the rules conform to a user-defined grammar for routing the medical asset data.

10   30.   The method of claim 29, further comprising presenting an interface for receiving user input that defines the user-defined grammar.